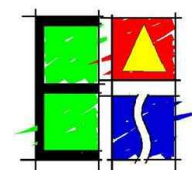


NOTES

PROJECT TEAM

Project Managers:



Engineering Advice & Services
73 Heugh Road
Walmere
Port Elizabeth, 6070
Tel: 041 581 2421
Marcus Niemand
marcus@easpec.co.za

Architect:



Intsika Architects
1st Floor, Office 4A
Leadwood House,
Cedar Square, Bonza Bay Road,
Beacon Bay, East London 5241
Tel: 043 726 7786
Cell: 082 872 8748
Rob Gillard
rob@intsika.com

Quantity Surveyors:



Pulana Baxter & Associates
30 Chamberlain Road,
Berea, East London 5241
Tel: 043 721 0984
Cell: 082 284 2488
Mark Baxter
mark@pba.co.za

Civil Engineers:



CSE Consulting Engineers
7B Derby Road, Berea,
East London
5241
Tel: 043 726 3565
JPC-van Wyk
el@cse-consult.co.za

Structural Engineers:



ZNM Consulting Engineers
8A Bonza Bay Road,
Beacon Bay,
East London 5241
Tel: 087 350 4035
Cell: 086 608 3511
Mzukisi Mashaba
mzukisi@znmeng.co.za

Electrical & Mechanical Engineers:



Carifro Consulting Engineers
Tel: 043 743 6266
Cell: 082 900 7514
Mechele Rivalola
mikeriv@carifro.com

REVISIONS

| NR. | DATE | REVISIONS |
|-----|------------|------------|
| 0 | 2021/06/01 | FOR TENDER |

DRAWN

| DRAWN | PK | CHECKED | JPCwW |
|-------|----------|---------|---------|
| DATE | MAY 2021 | SCALE | 1 : 250 |

CLIENT



Gary Whittaker
Project Manager
Tel: 043 7028247
Cell: 082 34632299
E-mail: gary@elidz.co.za

PROJECT

MANUFACTURING
FACILITY IN ZONE 1A
EB-DRG-11-20-Z1A

DRAWING

BULK SERVICES PLAN

PROJECT NO

E813

DWG NO.

002

REV

0

LEGEND:

- CLASS 100-D STORMWATER PIPE(REFER TO PLAN FOR PIPE SIZES)
- 110 /160mm Ø CLASS 34 uPVC SEWER PIPE
- 200mm Ø GMS FIRE MAIN FOR SPRINKLER SYSTEM
- 32 / 75mm Ø CLASS 9 uPVC WATER MAIN
- 75 / 110mm Ø CLASS 12 uPVC FIRE MAIN
- SEWER MANHOLE
- STORMWATER MANHOLE
- KERB INLET
- STORMWATER GRID INLET
- FIRE HYDRANT
- VALVE
- NON-RETURN VALVE
- FLOOR DRAIN
- FLO-DRAIN DRAINAGE PIPE
- 315mm DIA MAINLINE SUBSOIL MEGAFLW PIPELINE
- 1100 UNPERFORATED HDPE drainage pipe

1.GENERAL NOTES:

- All drawings to be read in conjunction with the architectural, mechanical, electrical and civil engineering drawings.
- Refer to the drawings of the mechanical and electrical engineer for openings and services to be cast into concrete structures, slabs, floors and beams etc. The positions and dimensions of these openings must be approved by the engineer prior to placing the concrete.
- Any discrepancies must be reported to the engineer without delay.
- Drawings must not be scaled.
- The design on this drawing remains the property of the CSE Consulting (Pty) Ltd, copyright is reserved.

2.GENERAL APPLICABLE STANDARDS AND SPECIFICATIONS:

The contractor must obtain a hardcopy of all relevant part of the SANS 2001 series before construction commences.

- Earthworks to be done in accordance with SANS 2001-BE1:2008
- Road and paving layers works to be in compliance with SANS
- Structural concrete work to be in compliance with SANS 2001-CC1:2012
- All masonry walling to comply with SANS 2001-CM1:2011
- Foundations, rafts, strip footings and bases to be in compliance with SANS 2001-CM2:2011
- Earthworks and bedding of pipes and culverts to be in accordance with SANS 2001-DP1: 2011
- Water pipes to be in accordance with SANS 2001-DP2: 2010
- Sewer installations to be in compliance with SANS 2001-DPA:2010 and SANS 10400.
- Storm water structures and systems to be in accordance with SANS 2001-DPS:2010.
- Precast concrete paving to be in accordance with SANS 1200 MJ (Segmented Paving)
- Kerbing and channelling in accordance with SANS 1200 MK (Kerbing and Channelling).

3. CONCRETE WORK:

3.1. GENERAL:

- All concrete work to be carried out in accordance with SANS 2001-CC1:2012 Edition 1.1.
- Levels indicated on structural drawing are finished concrete levels (TOC).
- Concrete mix designs and samples aggregates to be submitted to the engineer for prior approval.
- Concrete mixes to be designed to be within the slump limits indicated in Table 4 of SANS 2001-CC1.
- Concrete cube testing to be taken at frequencies indicated in Clause 5.1.3 of SANS 2001-CC1.
- Contractor to provide 30 MPa concrete cover blocks to ensure correct cover and position of reinforcing.
- Fabricated mesh reinforcing shall be securely supported on either concrete spacer blocks or mild steel bar chairs. No depth control by hand is acceptable. Mesh to be installed strictly in accordance with the depth positioning on the drawings. If not indicated, the cover to mesh reinforcing will be 30mm.
- Reinforcing fixed in final positions to be inspected and approved in writing by the engineer before concrete is cast.
- Concrete to be cured for the length of time specified in Table 8 of SANS 2001-CC1.
- All excavations to be approved in writing by the engineer before any concrete for foundations is cast.
- Positions of construction joints in concrete are subject to the prior approval of the engineer.
- No deviations from structural drawings or alterations to the structure permitted without the written consent of the engineer.

3.2. CONCRETE STRENGTHS:

In instances where cube strengths of concrete components are not specified on drawings, the 28th day on cube strength to be as follows:

Unreinforced Components:

- Walkways 25 MPa
- Mass concrete infills under foundations 10 MPa
- Pipe Concrete encasing 20 MPa
- Equipment Plinths 25 MPa
- Power floated industrial floors 35 MPa
- Concrete Hardstands and paving 30 MPa

Reinforced Components:

- RC strip foundations 25 MPa
- RC foundations and bases 30 MPa

Concrete Cover to Reinforcing:

- Suspended beam, sides and soffits 30mm
- Ground beam earth surfaces 50mm
- Bases 50mm
- Vertical bars in walls 30mm
- Main bars in earth surfaces 50mm

3.4. DEGREE OF ACCURACY:

- Tolerances to be within the limits of Degree of Accuracy II in Table 11 of SANS 2001-CC1.
- All surfaces formed with smooth shuttering or steel floated (ST) to be within Degree of Accuracy I.
- All concrete floors that will not receive a topping to be within Degree of Accuracy I.

3.5. PROPPING:

- No shuttering or propping to be taken out without written consent of the engineer.
- No propping to be taken out before proof or concrete strength in members is submitted and approved by the engineer.